



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/538,166

06/08/2005

Pil-Mo Choi

21ST01453 US

9410

90323

7590

04/26/2010

Innovation Counsel LLP  
21771 Stevens Creek Blvd  
Ste. 200A  
Cupertino, CA 95014

EXAMINER

WONG, TINA MEI SENG

ART UNIT

PAPER NUMBER

2874

MAIL DATE

DELIVERY MODE

04/26/2010

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/538,166	<b>Applicant(s)</b> CHOI ET AL.	
	<b>Examiner</b> TINA M. WONG	<b>Art Unit</b> 2874	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 08 March 2010.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) 6-27 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 June 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>6/8/2005 &amp; 4/8/2009</u> .                                 | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Priority***

Receipt is acknowledged of papers submitted by the International Bureau under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Election/Restrictions***

Applicant's election without traverse of Invention (1), Species I(a), claims 1-5 in the reply filed on 08 March 2010 is acknowledged.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. patent 6,936,844 to Yamazaki et al.**

In regards to claim 1, Yamazaki et al teaches a pixel (304) for displays (Figure 4B) comprising a channel layer (213 & 214), a first signal line (gate wiring) applying the first voltage to the channel layer, an insulating interlayer (167) insulating the first signal line from the channel layer and including a first contact hole and a second contact hole (Column 12), a second signal line (drain/source wiring) disposed on the insulating interlayer and electrically connected to the channel layer through the first contact hole, a third signal line (drain/source wiring) disposed on the insulating interlayer and electrically connected to the channel layer through the second contact hole and a pixel electrode (170 & 171) disposed on the insulating interlayer and

Art Unit: 2874

electrically connected to the third signal line. But Yamazaki et al fails to expressly teach a channel formed by applying a first voltage. However, the limitation is a method limitation in a device claim. Applicant is claiming a product, not a method of manufacturing the product. The patent being sought in the preceding claims is an end product that is met by the previously applied reference. Furthermore, Yamazaki et al fails to expressly teach the first and second contact holes to partially expose the channel layer. However, Yamazaki et al does teach the contact holes to reach the source and drain regions. The source and drain regions are on the same plane as the channel layers and since the source, drain, gate (channel) regions are all interconnected in order to form a functioning display device, the contact holes taught by Yamazaki et al must partially expose the channel layer in order to form the proper connections.

In regards to claim 2, Yamazaki et al teaches the pixel electrode to comprise indium zinc oxide.

In regards to claims 3 and 4, Yamazaki et al teaches the channel layer to further comprise a first region and a second region implanted with impurities at a relatively higher concentration than the channel layer, and the second and third signal lines connected to the first and second regions, respectively. Yamazaki et al further teaches the channel layer to further comprise a third region and a fourth region implanted with impurities at a relatively lower concentration than the channel layer, and the third and fourth regions are disposed adjacent to the first and second regions, respectively. (Regions 111-113 & 217-220)

In regards to claim 5, Yamazaki et al teaches an insulating layer formed on the insulating interlayer.

***Prior Art***

Art Unit: 2874

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The documents submitted by applicant in the Information Disclosure Statements have been considered and made of record. Note attached copy of forms PTO-1449.

### ***Inventorship***

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to TINA M. WONG whose telephone number is (571)272-2352. The examiner can normally be reached on Monday-Friday 8:30-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Uyen-Chau Le can be reached on (571) 272-2397. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2874

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Tina M Wong/

Primary Examiner, Art Unit 2874